



## Calibration Procedures

### Processing Procedures

Terrasolid's TerraMatch software was used to calculate and correct the IMU bore-site and mirror scale parameters for the Branch County LiDAR data. Within the TerraMatch software, the tie-line workflow was utilized to solve for heading, roll, pitch and elevation parameters. The tie-line workflow involves automated selection of numerous 'tie-lines', which represent a linear segment fit to the data that should have the same slope, azimuth, position and elevation, within the overlap sections of the survey and control lines. The tie-lines provide observations for algorithms within TerraMatch to solve for the bore-site and mirror scale parameters for each lift. The Tie-line workflow is dependent upon well distributed tie-lines throughout the swath point clouds to effectively solve for bore-site and mirror scale parameters with the automated algorithms. Adjustments for each lift were made using the statistics generated from the tie-line analysis.

### Quality Assurance Procedures

TerraScan was used to analyze relative fit between adjacent LiDAR survey lines as-well as with intersecting control flight swaths. Drawing cross-sections in these overlapping regions within TerraScan software, allowed for analysis of locations such as rooftops, embankments and other locations to verify the effectiveness of the IMU bore-site and mirror scale adjustments made within TerraMatch. This process was repeated interactively until residual errors between overlapping swaths, and across all project missions, were reduced to meet the accuracy requirement. The adjusted point clouds were then compared to the project survey control point data to ensure that the dataset fit within project tolerance.